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ABSTRACT

This study examines the relationship between college student alcohol use and the construct of social responsibility. For purposes of the study, alcohol use was defined by average number of drinks a week and frequency of binge drinking; social responsibility was defined by employment, marriage, living with children, living with parents, and hours of volunteer service. A total of 2,223 students at a midsize southern commuter university was surveyed over a 3-year period using a benchmark survey instrument developed for college students. After statistically controlling for the influence of age, gender, and ethnicity, more than 10 percent of the variance of both binge drinking and number of drinks per week was explained by the social responsibility construct. Students with high scores for social responsibility scored low for both binge drinking and number of drinks per week. Interestingly, students living with their parents were found to be more likely to binge drink. Implications of these results are discussed. (JM)

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THE RELATIONSHIP BETWEEN ALCOHOL USE AND SOCIAL RESPONSIBILITY IN COLLEGE STUDENTS

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ABSTRACT

This study examines the relationship between college student alcohol use and the construct of Social Responsibility. Alcohol use is defined as "Average Number of Drinks per Week" and "Frequency of Binge Drinking". Social Responsibility is defined as "employment", "marriage", "living with children", "living with parents", and "hours of volunteer" service. 2,223 students at a mid-sized southern commuter university were surveyed over a three-year period using the CORE survey. After statistically controlling for the influence of age, gender, and ethnicity, over ten percent of the variance of both binge drinking and number of drinks per week was explained by the Social Responsibility construct. Students with high scores for Social Responsibility score low for both binge drinking and number of drinks per week. Interestingly, students living with their parents were found to be more likely to binge drink. Implications of these results are discussed.

No drug is more widely used by the U.S. population than alcohol (Winick, 1992). This is especially evident among U.S. college students, who are much more likely to be heavy drinkers (42% versus 17%) than the general population. This increased likelihood continues to be evident when college students are compared to their non-college age cohorts. Johnston, O'Malley, and Bachman (1993) found that 41% of college students could be classified as heavy drinkers, while only 34% of non-college cohorts could be similarly classified.

To further put this in perspective, a considerable portion of college students are under the national minimum legal drinking of 21 years old. Although only 42% of college students can be classified as heavy drinkers, 75% admit to drinking at least once per month (Johnston, et al.,1993). This means that potentially the majority of the college population is engaging in illegal at least once per month. It has been suggested by Gose (1997) that the potential exists for the development of an attitude for disregarding other "inconvenient" legal statutes in later life.

Arguably, drinking is not in and of itself a problem, especially in healthy young adults. The results of behaviors that occur while these students are intoxicated are the problem. Despite reports in the popular media "exposing" this problem in the last two years, this is by no means a new problem. To the contrary, Gehring and Geraci (1989) discuss strategies used at Harvard in 1798 to address problems associated with the behavior of intoxicated students.

Several authors have addressed portions of the Social Responsibility construct as predictors of decreased alcohol use by college students. Barnes and Welte (1983), in a study of New York State college students found that students who worked full-time drank significantly less than students working part-time or not working. Working students at both levels were less likely to be heavy drinkers.

Single students have been consistently found to drink more than married students (Barnes & Welte, 1983; Conyne & Von Holle, 1982; Kopplin, Greenfield, & Wong, 1977), and one study reported that single students suffer more drinking related consequences (Von Holle, 1984). The 1997 *Monitoring the Future* report (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997) found that drinking decreases after marriage, yet cohabitation (sexual orientation is not discussed) does not show a similar decrease. The same study reports that drinking increases markedly after divorce.

Bachman, et al.(1997) also report that students who live with their parents drink less frequently than students living in off campus apartments or on campus. Similarly, students living in "Greek" houses consistently drink more than students in other living arrangements (Fillmore & Wittman, 1983; Globetti, et al., 1988; Heritage, 1979; Kodman & Sturmak, 1983; Presley, 1996), followed by those living in off campus apartments (Globetti, et al.,1988; Presley, 1996), and those living in residence halls (Bachman, et al., 1997; Fillmore & Wittman, 1983; Heritage, 1979; Presley, 1996).

The purpose of this study is to further test the findings of the above studies, and look for possible additive effects of the variables of employment, volunteer service, marriage, parenthood, and living with parents. The combination of these variables define the construct Social Responsibility. Variables used to measure alcohol use are average number of drinks per week (ANDW) and frequency of binge drinking (BD).

METHODS

Introduction

This study is an *ex-post facto* analysis of data covering three years of survey information on alcohol and drug (AOD) usage and attitudes of students at the University. Data were collected on a representative sample of 5% of students enrolled at the University in January, 1995 (n=655), January, 1996 (n=777) and January, 1997 (n=791). Students were surveyed as part of a Federally sponsored AOD prevention program funded by a grant from the Fund for the Improvement of Post-secondary Education (FIPSE). The granting period was from October, 1994, through March, 1997.

As part of the grant process, a pre and post evaluation of AOD usage by students is required by the funding agency (US Department of Education, 1987). Ideally this "post" evaluation should be performed 12 to 18 months after the pre-test. After consultation with the local project director and the US Department of Education, funding for this grant was extended past the usual 24 month period for a third assessment of the student population.

Participants

Participants were drawn from students who were enrolled in credit bearing classes at the University during the Spring semester of each year surveyed. Care was taken to divide the student population by classification (undergraduate versus graduate) and College enrollment (Engineering, Liberal Arts, etc.). A matrix was developed across these planes with data obtained from the University office of Records and Registration for total enrollment. Each matrix cell was set up to represent 5% of the student population in each classification (5% of undergraduate Engineering students, 5% of graduate Liberal Arts students, etc.).

The sample was 5% of the total enrollment for each cell. Sampling was accomplished by selecting classes representative of each cell (e.g. undergraduate Civil Engineering, graduate Sociology). Representitiveness of each class was established following conversations with academic counselors or Deans of the appropriate college. Where possible, classes that were slightly larger than what was called for in the sampling matrix were sampled to allow for student absence or unwillingness to participate in the survey. Hinkle, Wiersma, and Jurs (1994) and Steel and Torrie (1980) both provide thorough discussions of how stratified cluster sampling techniques of adequate size closely approximate random samples.

Instrumentation

All subjects were surveyed with the CORE instrument (Presley, Harrold, Scouten, Lyerla, & Meilman, 1994) as required by the granting agency. This instrument was originally published in 1989. The form used for this study was the 1994 Long Form revised just prior to the granting period with the inclusion of more questions related to student attitudes and student perceptions of campus norms (Presley, Meilman, Cashin, & Lyerla, 1996). This instrument was developed and continues to be revised to serve as the benchmark for college student AOD surveys. A more thorough discussion of the development of this instrument is in Presley, Meilman, and Lyerla (1993).

Data Collection

Data were collected in the first two weeks of classes each spring semester, with collection finished prior to the end of January. Two reasons exist for this timing of collection. Many of the items on the survey ask for 30 day prevalence of AOD behaviors. It was hoped that behaviors would be included that are related to both the break between classes and the beginning of the new term. The vast majority of the University students do not live on campus (UNO, 1994; UNO,

1995; UNO, 1996). It is hypothesized that this population's general lifestyle is much less affected by changes in the university calendar, and large numbers of students are available in class in the first two weeks of the term.

The second reason has more to do with the social schedule of the local area than the schedule of the University. During each Spring semester, Mardi Gras is celebrated in surrounding metropolis. Anecdotal evidence suggests that drinking increases during this period, and class attendance decreases. It could be argued that this would provide a valuable time frame to measure student AOD use. The difficulty is that few of the targeted students are likely to be available (similar to what occurs during Spring Break 3 to 4 weeks later).

Subjects were surveyed in the classrooms designated (see above) from matrix calculations. All subjects were provided with a standardized verbal explanation of the purpose of the survey and that participation was both voluntary and anonymous. During administration of the survey the professor or instructor conducting the class was instructed to leave the room (this was seldom problematic) to further insure anonymity. Those students not wishing to participate were given the choice of leaving the room or remaining in the classroom. Those non-participating students who remained in the classroom were instructed not to disturb participating students. Any student who had already responded to the survey in another class during the same year was asked not to repeat the survey.

All surveys were distributed and professional staff and/or student interns of the University Counseling Services monitored administration. Those students surveyed were also instructed that if items on the survey raised any further questions or concerns for the student on a personal level (or concerns about a friend or family member) to contact the University Counseling Services for further assistance.

Analysis

Demographic Variables

Initial analysis of each year's sample was performed using Chi Square procedures to test representativeness related to actual enrollment data. Sample data of age, ethnicity, and gender were matched to actual enrollment data from the corresponding year.

Relationship of Drinking and Social Responsibility

Analysis of possible social controls on drinking was performed on merged data of the three sampled years. It was proposed that increasing levels of social responsibility would be correlated with lower levels of drinking and binge drinking by students with those responsibilities. Social responsibilities analyzed included marital status (item 4), employment (item 7), living arrangement, where (item 8A), living arrangement - with whom (items 8B-8G), and hours of volunteer activity per week (item 23). Both frequency of binge drinking (item 14) and number of drinks per week (item 15) were compared to each of the social responsibility variables. Analysis was performed by:

a. Goodman & Kruskall's asymmetric lambda coefficient of association for average number of drinks per week (item 15) compared to marital status (item 4), and living arrangements-where (item 8a)

b. Pearson's r for average number of drinks per week (item 15) compared to employment status (item 7), living arrangement- with whom (items 8B-8G), and hours of volunteer service (item 23).

c. Goodman & Kruskall's asymmetric lambda coefficient of association for frequency of binge drinking (item 14) compared to marital status (item 4), and living arrangement-where (item 8a).

d. Pearson's r for frequency of binge drinking (item 14) compared to employment status (item 7), living arrangement- with whom (items 8B-8G) and hours of volunteer service (item 23).

RESULTS

Demographic Variables

Chi Square analysis of demographic found no significant difference in the sample from the population from which it was drawn for any sample year. After merging the three samples, the following results were revealed:

Age: mean = 24.7, S.D. = 7.552

Gender: Female = 56.7%, Male = 43.35

Ethnicity: Native American = .01%

Hispanic = 2%

Asian = 3%

White = 73%

African Am. = 21%

Other = 1%

Relationship of Drinking and Social Responsibility

Correlates of Average Number of Drinks per Week

The single variable correlates of ANDW are recorded in Table 1. Living with a roommate was the only variable positively correlated with ANDW. ANDW was negatively correlated with marriage (living with spouse), parenthood (living with own children), and working. Suprisingly,

there was no significant correlation to living with parents or location of living arrangements (Greek house, on-campus, of campus).

Table 1. Single variable correlation coefficients

Variable	Correlation coefficient	Level of significance
Working	-.0490	p<.05
Living with roommate	.0688	p<.001
Living alone	.0185	ns
Living with parent	.0129	ns
Living with spouse	-.0756	p<.001
Living with own children	-.0832	p<.001
Living - where	.00165	ns
Hours of volunteer service	-.0454	ns

Following the initial analysis of the data, further analysis was performed by Multiple Classification Analysis (MCA). This procedure allows multiple variables to be grouped together to find a correlation coefficient representing the combination of variables. This coefficient is termed the Multiple R. Results of this analysis are recorded in Table 2.

Table 2. Multiple Classification Analysis

Variables	Multiple R	Multiple R squared	Level of significance
Living with children and spouse	.107	.011	p<.001
Working, living with children and spouse	.131	.017	p<.001
Working, living with children and spouse (age and gender controlled)	.263	.069	p<.001
Working, living with children and spouse, White (age and gender controlled)	.286	.082	p<.001
Working, living with children and spouse, African American (age and gender controlled)	.313	.098	p<.001

Following MCA, the strongest predictor for ANDW was a combination of marriage, parenthood, and working. This predictor was strengthened when controlling for age and gender, and strengthened further when calculated for the major ethnic groups on campus.

Correlates of Frequency of Binge Drinking

Single variable correlates of Frequency of Binge Drinking (BD) are recorded in Table 3. BD was positively correlated with living with a roommate, and, surprisingly, living with parents. BD was negatively correlated with hours of volunteer service, marriage (living with spouse), and parenthood (living with own children). Interestingly, there was no significant correlation with working.

Table 3. Single variable correlation coefficients

Variable	Correlation coefficient	Level of significance
Working	-.0283	ns
Living with roommate	.0813	p<.001
Living alone	.0017	ns
Living with parent	.0761	p<.001
Living with spouse	-.1389	p<.001
Living with own children	-.1255	p<.001
Living - where	.00165	ns
Hours of volunteer service	-.0698	p<.001

Following initial analysis of the data, further analysis was performed by Multiple Classification Analysis (MCA). This procedure allows multiple variables to be grouped together to find a correlation coefficient representing the combination of variables. This coefficient is termed the multiple R. MCA analysis for BD can be found in Table 4.

Table 4. Multiple Classification Analysis

Variables	Multiple R	Multiple R squared	Level of significance
Living with children and spouse	.171	.029	p<.001
Living with children & spouse, volunteering	.178	.032	p<.001
Living with children & spouse, volunteering (age & gender controlled)	.285	.081	p<.001
White, living with children & spouse, volunteering (age & gender controlled)	.329	.108	p<.001
African American, living with children & spouse, volunteering (age & gender controlled)	.257	.066	p<.001

Following MCA , the strongest predictor for BD was living with spouse and children, and volunteering. Controlling for age and gender strengthened this prediction further, but only for White students.

DISCUSSION

The construct of Social Responsibility was supported by this study. Students reporting more responsibilities (defined here as marriage, parenthood, working, and volunteering) and social control (living with parents) did generally correspond with lower levels of drinking. These findings are in general agreement with earlier researchers (see above) who have researched portions of the construct.

Average Number of Drinks per Week

That ANDW was positively correlated with living with a roommate has been reported at least twice previously. Both Von Holle (1984) and Prendergast (1994) describe a system of self-

selection in this regard, stating that students who drink heavily tend to look for roommates with similar behaviors, and avoid living alone. Von Holle further states that students who drink heavily in High school purposely select roommates with similar behaviors when reaching college.

The ANDW was negatively correlated with marriage, parenthood, working, and living with parents. As stated above, these were expected results. With the exception of parenthood (no previous studies could be found), all have been reported previously.

The ANDW was not significantly correlated with living alone, living with parents, location of living arrangements, or volunteer service. Several of these findings were unexpected. Other authors have reported significant differences related to location of residence. This may not have presented in this study do to the commuter nature of the campus with a very small number of students living in dormitories, and an even smaller number living in Greek houses. The authors had assumed the volunteer service would be similar (at least as a responsibility) to working. From this data there appears to be a distinct difference.

The fact that by MCA the correlation coefficient (and corresponding percentage of variance explained) increase implies that multiple factors are at play. The construct of Social responsibility remains robust after controlling for age and gender. In reference to ANDW, controlling for ethnicity further strengthens the construct.

Frequency of Binge Drinking

The positive relationship of BD to living with a roommate was expected, as discussed above. The positive relationship of BD to living with a parent was surprising. Studies have consistently shown that living with parents is associated with low levels of alcohol use (Bachman, et al., 1997; Kodman & Sturmak, 1983; Klienke & Hinrichs, 1983; Mills & McCarty, 1983; Von

Holle, 1984; Wechsler, et al., 1994). This difference from previous findings may be related to the cultural norms of the community surrounding the University.

The negative correlation of BD to marriage and parenthood was expected, as discussed in the above section on ANDW. That there was no significant relationship between BD and working, and that a negative correlation exists to volunteer service is perplexing. This is directly opposed to the relationship for these two variables in relation to ANDW. This further reinforces the belief that volunteering is somehow very different from working, or at least those who volunteer drink very differently from those who work.

Following MCA it is clear the relationship to BD is strengthened by controlling for age and gender. Controlling for ethnicity is more complicated. With Whites the relationship is more robust than the total sample. The opposite is true for African Americans. This implies a different reason for BD between the two major races in this population.

Implications

A common cry from university administrators, student service personnel, and towns surrounding universities (and at times students themselves) is " Why can't the students be more responsible?" This continues to be a good question, even being addressed by Budweiser's "Drink Responsibly" campaign on college campuses. Interestingly Budweiser never refers to the responsibility of not drinking.

Perhaps the college itself has a responsibility to alter the campus culture by providing or promoting a more responsible population of students. Providing increased work-study opportunities could potentially decrease drinking on campus. Providing (or requiring) volunteer service for college credit could potentially decrease binge drinking.

Recruiting (with or without scholarships) those students who are married and/or parents could potentially decrease alcohol problems. Given the increase in unwed mother's in the past decade and the success of high school programs helping them graduate, this could be a good pool to recruit from. Admittedly housing and supportive services for married and/or parent students would be more expensive than for the traditional student. The decreases in student drinking and the collateral damage caused by that drinking could possibly offset these costs.

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